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A REPLY TO THE DISCUSSION by A.Xu and S.Chandra of the Paper "CALCULATION OF CHLORIDE DIFFUSION COEFFICIENTS IN CONCRETE FROM IONIC MIGRATION MEASUREMENTS"

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The author would like to thank A.Xu and S.Chandra for their interest in her paper and will try to reply as briefly as possible to their detailed comments:

1) This comment has two parts: a) the different names given to the "Rapid Chloride Permeability Test" proposed by D. Whiting are well known and, in my opinion, no further clarification is needed, b) the reference to previous experimental explanations is a common practice in order to avoid unnecessary repetitions when the subjects cannot be easily summarized. So was considered the description on the calculation method of activity coefficients. However, in order to extend the explanation, the method employed can be described in few words or saying that the concept of "mean activity coefficient" for a binary electrolyte was used and was measured by means of its equivalent conductivity.

2) The paragraph within inverted commas in Xu and Chandra's discussion is not exactly what was written in my paper. What was said there about the well known reaction between chlorides and C_3A is in my opinion correct. In contrast, Xu and Chandra's opinion seems to be erroneous because we have never noticed that formation of Friedel's salt could the lead to microcraking. Such act has never been reported by previous authors working on chloride diffusion (1)(2)(3). To state that Friedel's salt "will produce very much expansion" in concrete discs, seems to be a gross mistake, unless Xu and Chandra are considering other effects of salt penetration, such as recrystalization.

3) Simple flow means flow produced once the concrete disc has saturated its reaction sites with chloride. That AASHTO test "cannot be used for the measurement of porosity and permeability in general" is also my opinion. No disagreement here.

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